Item #7
March 9, 2010
Energy Commission Business Meeting

AIRPORT COMMISSION OF THE CITY AND COUNTY OF SAN FRANCISCO

Grant Agreement ARV-10-036 for

SFO West Bay Hydrogen Fueling Complex

Summary

The City and County of San Francisco Airport Commission will contract with Linde, LLC to construct a new hydrogen fueling station in Millbrae at the San Francisco International Airport (SFO). At full demand, the station will provide approximately 240 kilograms of hydrogen per day, which is enough to fuel approximately 240 fuel cell vehicles per day.

Based on surveys of automakers, more than 250 fuel cell vehicles are expected to be deployed in the Northern California region by 2014. The lack of available hydrogen fueling infrastructure is a major hurdle in promoting the deployment of fuel cell vehicles. This is due in part to the high station cost, as well as the large footprint of hydrogen fueling stations. The hydrogen fueling network concept developed by Linde offers an opportunity to resolve these issues by their modular approach. The Linde concept uses a centralized hydrogen production system that places equipment at the central filling facility instead of at each fueling station, reducing the footprint and cost of individual stations. The fuel is liquefied at the central station, then delivered to the retail stations vaporized on demand.

This project received previous funding from other parties, including the California Air Resources Board. Energy Commission funds will make it possible to upgrade the capacity of this project. The Energy Commission is providing $567,003 in Alternative and Renewable Fuel and Vehicle Technology Program funds to the City and County of San Francisco Airport Commission. Linde will provide match funding of $441,288.

Benefits

This project, along with other hydrogen fueling stations in the greater Los Angeles and Northern California regions, will create a network of hydrogen fueling stations that will enable automakers to accelerate their deployment of fuel cell vehicles in both regions. Fuel cell vehicles produce zero tailpipe emissions and will reduce lifecycle greenhouse gas

emissions by 44 percent compared to a conventional gasoline vehicle.[1] Based on estimated vehicle throughput through 2020, this Linde hydrogen fueling station will reduce greenhouse gas emissions by 1,055 metric tons and displace 195,089 gallons of gasoline.

Additionally, more than one-third of the hydrogen fuel that Linde will deliver to this station will be produced from renewable feedstocks.

It is estimated that the project will create approximately 62 Jobs in California.

Participants

The City and County of San Francisco Airport Commission owns and operates San Francisco International Airport.

Linde is a global leader in hydrogen production, distribution and supply, with more than 100 years of experience in industrial gas. Linde has extensive experience in the installation and upkeep of hydrogen fueling stations worldwide, including several projects in California.

Project Milestones

Station construction is expected to begin April 2011 and is expected to be completed by June 2012.

[1] 44% greenhouse gas emissions reduction: Central steam methane production, liquefied, SB 1505 compliant 33.3% renewable hydrogen, used in a light duty fuel cell vehicle (LCFS/GREET)